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CHROMOSOME NUMBER IN TWO PRIMITIVE DICOTS,  
*XYMALOS MONOSPORA* (MONIMIACEAE) AND  
*PIPTOCALYX MOOREI* (TRIMENIACEAE)

*Xymalos monospora* (Harvey) Baill.  $2n = 40-42$ . Zimbabwe-Rhodesia, Bunga Forest, Umtali distr., Müller s.n. (13 Aug. 1978) (SRGH).

Chromosomes of *Xymalos* are small in size, ranging from 1.5–2.5  $\mu\text{m}$  and comparable in appearance to those of other Monimiaceae studied by Goldblatt (1974). Small size and high number made an accurate count for *Xymalos* difficult, especially as the material available was very limited.

*Piptocalyx moorei* Oliver ex. Benth.  $2n = 16$ . Australia, New South Wales, North Coast, Floyd 1104 (NSW).

The chromosomes of *Piptocalyx* are substantially larger than those of *Xymalos* and range from 3–4.5  $\mu\text{m}$  in size. Details of chromosome morphology are clearly visible and are illustrated in Fig. 1.

*Xymalos* is a monotypic genus of eastern south-tropical Africa, usually assigned to Monimiaceae s.l. The only other African genus is the tropical West African *Glossocalyx*, one of three genera of Monimiaceae-Siparunoideae (sometimes segregated as Siparunaceae); however, Monimiaceae-Monimioideae are well represented on the offshore African islands of Madagascar and the Mascarenes. An alternative systematic position for *Xymalos* was proposed by Hutchinson (1964) who placed the genus in the otherwise Pacific family Trimeniaceae. This treatment is not generally accepted (Schodde, 1970; Thorne, 1974) but was followed by Dyer (1975) in his revised generic flora of southern Africa.

There are strong cytological differences between Monimiaceae and Trimeniaceae, the former having base numbers at a palaeohexaploid level,  $x = 22-19$ . Base numbers for Monimiaceae s.s. (excluding Siparunaceae,  $x = 22$ , and Atherospermataceae,  $x = 22$ ) are mostly  $x = 19$  with counts also for  $n = 22$  and  $n = 18$  in two genera (Ehrendorfer et al., 1968; Goldblatt, 1974), while Trimeniaceae

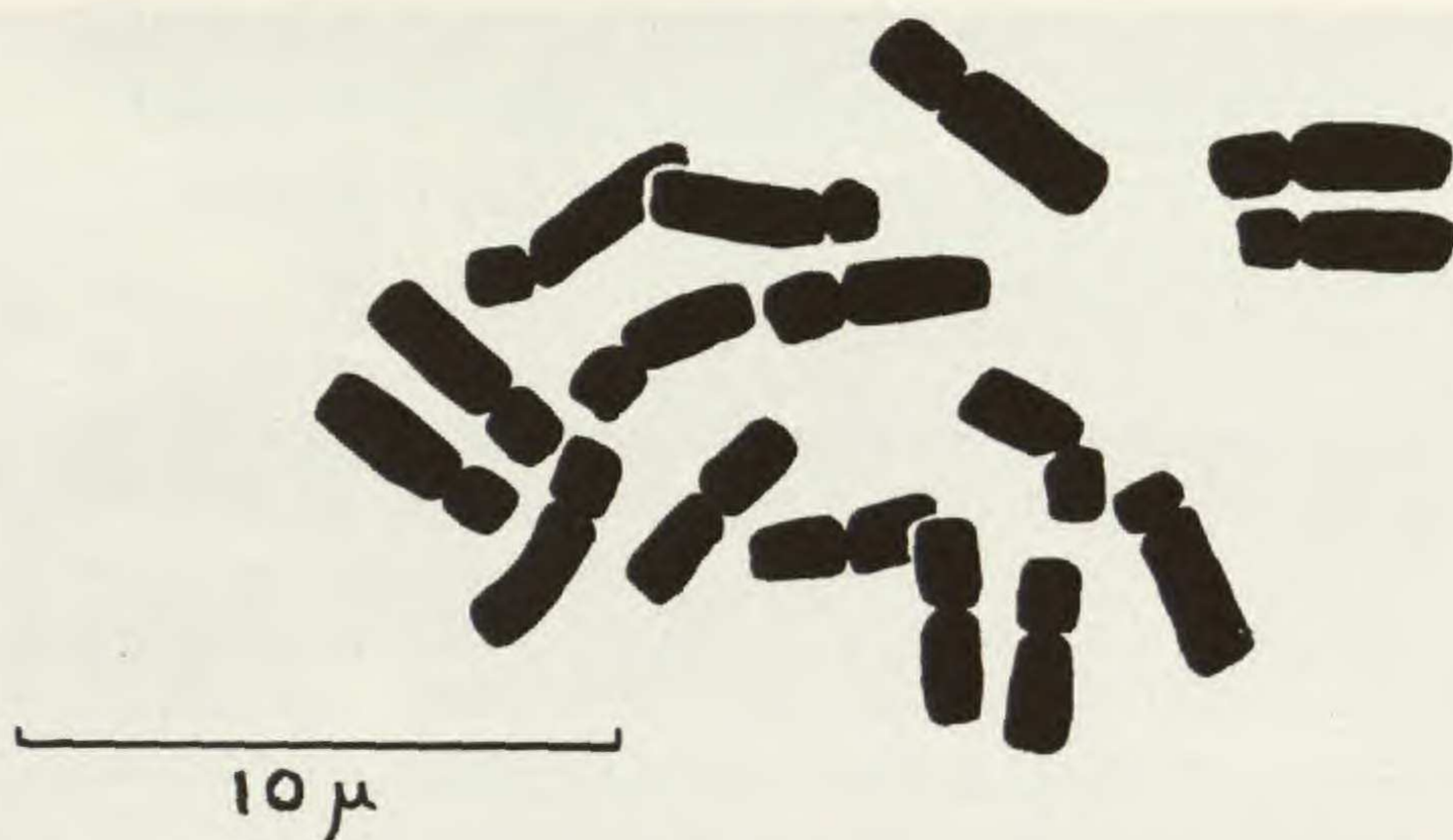


FIGURE 1. Chromosome morphology of *Piptocalyx moorei* at mitotic metaphase.

are evidently palaeodiploid, the only previous count being a report of  $n = 8$  in *Trimenia papuana* (Goldblatt, 1974). Differences in base number are accompanied by strong size differences in the chromosomes.

The present note substantiates the cytological differences between these two families, with the report of  $n = 8$  in the monotypic *Piptocalyx*, the only other genus of Trimeniaceae, confirming the initial observations on the cytology of the family. Cytological data provide convincing supportive evidence that *Xymalos* does not belong to Trimeniaceae, and it seems well placed in the Monimiaceae alliance.

Due to the cytological difficulties in the available material of *Xymalos*, a more accurate count proved impossible. We are thus unable at present to say whether chromosome number indicates close affinity to Monimiaceae s.s. ( $x = 19$ ) or to Siparunaceae or Atherospermataceae (both  $x = 22$ ). Morphology, however, does not indicate any affinity of *Xymalos* to the latter two families.

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